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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Application Number	Unknown - 10/730,641
Filing Date	Even Date Herewith - 12/8/03
First Named Inventor	Farrar, Paul
Group Art Unit	Unknown - 2815
Examiner Name	<del>Owens, Beth</del> Fenty, Jesse

Sheet 1 of 5

Attorney Docket No: 1303.041US2

**US PATENT DOCUMENTS**

Examiner Initial*	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date if Appropriate
	US-2001/0014512	08/16/2001	Lyons, C. F., et al.	438	424	09/17/1999
	US-2002/0094651	07/18/2002	Farrar, P. A.	438	296	03/13/2002
	US-3,506,438	04/14/1970	R.H. Krock, , et al.	75	208	07/24/1967
	US-3,953,566	04/27/1976	Gore, Robert W.	264	288	07/03/1973
	US-3,956,195	05/11/1976	Topchiashvili, Mikhail , et al.	252	511	02/21/1974
	US-3,962,153	06/08/1976	Gore, Robert W.	260	2.5R	06/14/1973
	US-4,096,227	06/20/1978	Gore, Robert W.	264	210R	12/03/1975
	US-4,368,350	01/11/1983	Perelman, Robert	174	102	05/28/1981
	US-4,482,516	11/13/1984	Bowman, Jeffery B., et al.	264	127	09/10/1982
	US-4,561,173	12/31/1985	Te Velde, T. S.	438	619	06/07/1983
	US-4,599,136	07/08/1986	Araps, Constance J., et al.	156	643	10/03/1984
	US-4,749,621	06/07/1988	Araps, C. J., et al.	428	473.5	12/02/1986
	US-4,962,058	10/09/1990	Cronin, J. E., et al.	437	187	04/14/1989
	US-5,103,288	04/07/1992	Sakamoto, M., et al.	357	71	03/27/1991
	US-5,137,780	08/11/1992	Nichols, Michael F., et al.	428	336	11/21/1989
	US-5,158,986	10/27/1992	Cha, S. W., et al.	521	82	04/05/1991
	US-5,158,989	10/27/1992	Ogitani, Osamu , et al.	522	77	10/09/1990
	US-5,171,713	12/15/1992	Matthews, J.	437	189	01/28/1991
	US-5,173,442	12/22/1992	Carey, D. H.	437	173	03/24/1992
	US-5,227,103	07/13/1993	Muschiatti, L. C.	264	45.9	02/27/1992
	US-5,324,683	06/28/1994	Fitch, J. T., et al.	437	65	06/02/1993
	US-5,334,356	08/02/1994	Baldwin, D. F., et al.	422	133	08/24/1992
	US-5,340,843	08/23/1994	Tsuruta, Makoto , et al.	521	79	02/22/1993
	US-5,408,742	04/25/1995	Zaidel, S. A., et al.	29	846	10/22/1993
	US-5,438,539	08/01/1995	Mori, Toshihiko	365	159	09/02/1994
	US-5,449,427	09/12/1995	Wojnarowski, Robert J., et al.	156	155	05/23/1994
	US-5,470,693	11/28/1995	Sachdev, K., et al.	430	315	02/18/1992
	US-5,470,802	11/28/1995	Gnade, B. E., et al.	437	238	05/20/1994
	US-5,473,814	12/12/1995	White, L. H.	29	840	01/07/1994
	US-5,486,493	01/23/1996	Jeng, Shin-Puu	437	195	04/26/1995
	US-5,510,645	04/23/1996	Fitch, J. T., et al.	257	522	01/17/1995
	US-5,548,159	08/20/1996	Jeng, S.	257	634	05/23/1995

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First Named Inventor	Farrar, Paul
Group Art Unit	<del>Unknown</del> 2815
Examiner Name	<del>Owens, Beth</del> Fenty, Jesse

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Attorney Docket No: 1303.041US2

US-5,552,638	09/03/1996	O'Connor, Loretta J., et al.	257	759	12/05/1994
US-5,554,305	09/10/1996	Wojnarowski, Robert J., et al.	216	62	03/27/1995
US-5,554,870	09/10/1996	Fitch, Jon T., et al.	257	334	08/02/1995
US-5,591,676	01/07/1997	Hughes, , et al.	437	195	03/16/1995
US-5,593,926	01/14/1997	Fujihiro, M.	437	209	10/07/1994
US-5,747,880	05/05/1998	Havemann, R. H., et al.	257	759	11/18/1996
US-5,780,121	07/14/1998	Endo, K.	427	569	06/12/1997
US-5,785,787	07/28/1998	Wojnarowski, Robert J., et al.	156	155	11/22/1995
US-5,786,630	07/28/1998	Bhansali, A. , et al.	257	697	08/07/1996
US-5,798,200	08/25/1998	Matsuura, K. , et al.	430	126	02/19/1997
US-5,804,607	09/08/1998	Hedrick, Jeffrey , et al.	521	64	10/16/1997
US-5,821,621	10/13/1998	Jeng, Shin-Puu	257	759	10/10/1996
US-5,830,923	11/03/1998	Venkataraman, S. K.	521	64	04/17/1997
US-5,841,075	11/24/1998	Hanson, D. A.	174	250	01/28/1998
US-5,844,317	12/01/1998	Bertolet, A. , et al.	257	773	07/26/1996
US-5,864,923	02/02/1999	Rouanet, Stephane F., et al.	23	295R	08/26/1997
US-5,878,314	03/02/1999	Takaya, T. , et al.	399	302	01/20/1998
US-5,879,787	03/09/1999	Petefish, W. G.	428	209	11/08/1996
US-5,879,794	03/09/1999	Korleski, Joseph E.	428	317.1	11/08/1996
US-5,891,797	04/06/1999	Farrar, P. A.	438	619	10/20/1997
US-5,912,313	06/15/1999	Mcintosh, L. H., et al.	526	279	11/22/1995
US-5,923,074	07/13/1999	Jeng, S.	257	522	12/03/1996
US-5,926,732	07/20/1999	Matsuura, Masazumi	438	622	09/20/1996
US-5,953,626	09/14/1999	Hause, F. N., et al.	438	622	06/05/1996
US-6,037,245	03/14/2000	Matsuda, Hajime	438	586	06/28/1999
US-6,037,249	03/14/2000	Chiang, C. , et al.	438	619	12/31/1997
US-6,040,628	03/21/2000	Chiang, C. , et al.	257	760	12/19/1996
US-6,043,146	03/28/2000	Watanabe, J. K., et al.	438	623	07/27/1998
US-6,071,600	06/06/2000	Rosenmayer, T.	428	213	11/18/1998
US-6,077,792	06/20/2000	Farrar, P. A.	438	780	07/14/1997
US-6,165,890	12/26/2000	Kohl, P. A., et al.	438	619	01/21/1998
US-6,172,305	01/09/2001	Tanahashi, S.	174	255	07/29/1998
US-6,195,156	02/01/2001	Miyamoto, H. , et al.	355	85	03/13/1998
US-6,245,658	06/12/2001	Buynoski, M.	438	619	02/18/1999
US-6,255,712	07/03/2001	Clevenger, , et al.	257	522	08/14/1999
US-6,265,303	07/01/2001	Lu, J. , et al.	438	623	11/09/1999

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Application Number	Unknown 10/730,641
Filing Date	Even Date Herewith 02/8/03
First Named Inventor	Farrar, Paul
Group Art Unit	Unknown 2815
Examiner Name	Owens, Beth Fenty, Jesse

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Attorney Docket No: 1303.041US2

US-6,268,637	07/31/2001	Gardner, M. , et al.	257	522	10/22/1998
US-6,287,979	09/11/2001	Zhou, Mei-Sheng , et al.	438	723	04/17/2000
US-6,313,046	11/06/2001	Juengling, W , et al.	438	781	07/14/1998
US-6,313,518	11/06/2001	Ahn, K. , et al.	257	632	03/02/2000
US-6,323,125	11/27/2001	Soo, C. , et al.	438	645	03/29/1999
US-6,331,480	12/01/2001	Tsai, , et al.	438	624	
US-6,333,556	12/25/2001	Juengling, W , et al.	257	758	10/19/1997
US-6,342,454	01/29/2002	Hawker, Craig , et al.	438	780	11/16/1999
US-6,350,672	02/26/2002	Sun, Shih-Wei	438	619	10/09/1997
US-6,352,818	03/05/2002	Hsieh, H.	430	322	09/01/1999
US-6,380,294	04/30/2002	Babinec, Susan , et al.	524	440	10/15/1998
US-6,413,827	07/02/2002	Farrar, P. A.	438	296	02/14/2000
US-6,420,261	04/16/2002	Kudo, Hiroshi	438	633	08/31/1999
US-6,420,262	07/16/2002	Farrar, P. A.	438	652	01/18/2000
US-6,420,441	07/16/2002	Allen, C. S., et al.	521	77	12/10/1999
US-6,503,818	01/07/2003	Jang, Syun-Ming	438	584	04/02/1999
US-2001/0005625	06/28/2001	Sun, Shih-Wei	438	634	12/29/2000
US-2001/0014526	08/16/2001	Clevenger, L A., et al.	438	619	04/04/2001
US-2001/0019876	09/06/2001	Juengling, W , et al.	438	456	03/28/2001
US-2001/0034117	10/25/2001	Eldridge, J , et al.	438	619	06/27/2001
US-2001/0050438	12/13/2001	Juengling, W , et al.	257	758	08/02/2001
US-2002/0019125	02/14/2001	Juengling, W , et al.	438	631	10/12/2001
US-2002/0037603	03/28/2001	Eldridge, , et al.	438	112	08/10/2001

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T <sup>2</sup>
	EP-578856A1	07/16/1992	Beuttler, G. , et al.	HO1 L	21/334	
	GB-2158995A	11/20/1985	Maile, G. L.	HO1 Q	17/00	
	JP-01-230505	08/24/2001	Kirchhoff, M.	H05K	01/03	

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		"ACCUSPIN T-18 Flowable Spin-On Polymer (SOP)", AlliedSignal - Advanced Microelectronic Materials, Sunnyvale, CA, (7/98), pp. 1-2	
		"Packaging", Electronic Materials Handbook, Volume 1, ASM International, (1989), pp. 105, 768-769	

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Group Art Unit	<del>Unknown</del> 2815
Examiner Name	<del>Owens, Beth</del> FENTY, JESSE

Sheet, 4 of 5

Attorney Docket No: 1303.041US2

		"Properties and Selection: Nonferrous Alloys and Pure Metals", <u>Metals Handbook Ninth Edition, Vol. 2, ASM International, (1979), pp. 157, 395</u>	
		"Properties and Selection: Nonferrous Alloys and Pure Metals", <u>Metals Handbook Ninth Edition, Volume 2, ASM International, (1979), pp. 796-797</u>	
		BAI, Y., et al., "Photosensitive Polynorbornene as a Dielectric Material for Packaging Applications", <u>Proceedings of the 2001 International Symposium on Advanced Packaging Materials, (2001), 322-326</u>	
		CHINIWALLA, P., et al., "Structure-Property Relations for Polynorbornenes", <u>Proceedings from the Eighth Meeting of the Dupont Symposium on Polyimides In Microelectronics, (1998), pp. 615-642</u>	
		CONTI, R., et al., "Processing Methods to Fill High Aspect Ratio Gaps Without Premature Constriction", <u>1999 Proceedings of Dielectrics for Multilevel Interconnection Conference, (1999), pp. 201-209</u>	
		CRAIG, J. D., "Polyimide Coatings", In: <u>Packaging, Electronic Materials Handbook, Vol. 1, ASM International Handbook Committee (eds.), ASM International, Materials Park, OH, (1989), 767-772</u>	
		GROVE, N., et al., "Functionalized Polynorbornene Dielectric Polymers: Adhesion and Mechanical Properties", <u>Journal of Polymer Science, (1999), 3003-3010</u>	
		JAYARAJ, K., et al., "Low Dielectric Constant Microcellular Foams", <u>Proceedings from the Seventh Meeting of the DuPont Symposium on Polyimides in Microelectronics, (September 1996), pp. 474-501</u>	
		JIN, C., et al., "Porous Xerogel Films as Ultra-low Permittivity Dielectrics for ULSI Interconnect Applications", <u>Conference Proceedings ULSI XII - 1997 Materials Research Society, (1997), pp. 463-469</u>	
		LABADIE, J., et al., "Nanopore Foams of High Temperature Polymers", <u>IEEE Transactions on Components, Hybrids, and Manufacturing Technology, 15, (Dec., 1992), 925-930</u>	
		MILLER, R. D., et al., "Low Dielectric Constant Polyimides and Polyimide Nanofoams", <u>Seventh Meeting of the DuPont Symposium on Polyimides in Microelectronics, (September 1996), pp. 443-473</u>	
		RAMOS, T., et al., "Nanoporous Silica for Dielectric Constant Less Than 2", <u>Conference Proceedings ULSI XII - 1997 Materials Research Society, (1997), 455-461</u>	
		REMENAR, J., et al., "Templating Nanopores into Poly (Methylsilsequioxane): New-Low Dielectric Coatings Suitable for Microelectronic Applications", <u>Materials Research Society Symposium Proceedings, 511, (1998), pp. 69-74</u>	
		SHIBASAKI, T., et al., "Process and Application of Fumed Silica AEROSIL", <u>3rd Annual Workshop on Mechanical Polishing, Lake Placid, New York, (1998), pp. 1-26</u>	
		SINGER, P., "The New Low-k Candidate: It's a Gas", <u>Semiconductor International, 22(3), (March, 1999), pg. 38</u>	
		TING, C. H., "Low K Material/Process Development", <u>1996 VLSI Multilevel Interconnection State-of-the-Art Seminar, (June 1996), pp. 171-212</u>	

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Examiner Name	<del>Owens, Beth</del> Fenty, Jesse

Sheet 5 of 5

Attorney Docket No: 1303.041US2

	VAN VLACK, L. H., <u>Elements of Materials Science</u> , Addison-Wesley Publishing Co., Inc. Reading, MA, (1959), pg. 468	
	VARDAMAN, E. J., "Future Packaging Trends: CSP vs. Flip Chip", <u>11th European Microelectronics Conference</u> , (1997), pp. 295-299	
	VOLKSEN, W. , et al., "Characterization and Processing Considerations for Methylsilsesquioxane Based Dielectrics", <u>Proceedings of the Fifth Dielectric for ULSI Multilevel Interconnections</u> , Santa Clara, CA, (1999), pp. 83-90	

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